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**Portman**

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(54) **SPORTS DRINK COMPOSITION FOR  
ENHANCING GLUCOSE UPTAKE INTO THE  
MUSCLE AND EXTENDING ENDURANCE  
DURING PHYSICAL EXERCISE**

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#### **Related U.S. Application Data**

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filed on Aug. 11, 2003, now Pat. No. 6,989,171, which  
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357, filed on Apr. 2, 2001, now abandoned.

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**A23L 1/29** (2006.01)

(52) **U.S. Cl.** ..... **426/590**; 426/583; 426/656;  
426/658

(58) **Field of Classification Search** ..... 426/590,  
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See application file for complete search history.

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(57) **ABSTRACT**

The present invention provides for a nutritional composition in a dry powder form or a liquid drink form for optimizing muscle performance during exercise. The nutritional composition includes carbohydrate and protein in a ratio, in the range of 2.8 to 4.2 parts of the carbohydrate to 1.0 part of the protein. The carbohydrate is composed of a mixture of three sugars which are characterized by the fact that they are transported from the GI tract into the plasma via different transport pathways, specifically, the glucose pathway, the fructose pathway and the disaccharide pathway. One or more proteins are in the range of 10.29% to 32.25% by weight of the dry composition. The nutritional composition further includes electrolytes for replenishing electrolytes lost during exercise and for facilitating intestinal reabsorption of fluid. The carbohydrates are transported to the plasma via multiple transport pathways: one for glucose and similar sugars, another for fructose and similar sugars, and another for the complex sugars.

**11 Claims, No Drawings**